

Supporting online materials

Musical Preferences Predict Personality: Evidence from Active Listening and Facebook Likes

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Table S1: Predictive accuracies of the big-5 personality traits using Mix_A survey, for different sub-populations

Mix A	Openness				Conscientiousness				Extraversion				Agreeableness				Neuroticism								
Over 30 y/o	N	R	95% CI	p	N	R	95% CI	p	N	R	95% CI	p	N	R	95% CI	p	N	R	95% CI	p					
MUSIC	1,552	0.21	0.16	0.25	<.001	1,552	0.09	0.04	0.14	<.001	1,551	0.14	0.09	0.19	<.001	1,552	0.18	0.13	0.23	<.001	1,511	0.08	0.03	0.13	0.003
Music+Gender+Age	1,528	0.20	0.15	0.25	<.001	1,528	0.08	0.03	0.13	0.002	1,527	0.14	0.09	0.19	<.001	1,528	0.21	0.16	0.25	<.001	1,488	0.12	0.07	0.17	<.001
Gender+Age	1,528	0.00	-0.05	0.05	0.923	1,528	0.04	-0.01	0.09	0.083	1,527	-0.02	-0.07	0.03	0.381	1,528	0.12	0.07	0.17	<.001	1,488	0.08	0.03	0.13	0.002

Mix A	Openness				Conscientiousness				Extraversion				Agreeableness				Neuroticism								
Non US, UK, CA	N	R	95% CI	p	N	R	95% CI	p	N	R	95% CI	p	N	R	95% CI	p	N	R	95% CI	p					
MUSIC	1,627	0.21	0.17	0.26	<.001	1,627	0.11	0.07	0.16	<.001	1,627	0.16	0.12	0.21	<.001	1,627	0.20	0.15	0.24	<.001	1,580	0.14	0.10	0.19	<.001
Music+Gender+Age	1,596	0.22	0.17	0.26	<.001	1,596	0.15	0.10	0.20	<.001	1,596	0.17	0.12	0.21	<.001	1,596	0.20	0.15	0.24	<.001	1,552	0.19	0.14	0.24	<.001
Gender+Age	1,596	0.02	-0.02	0.07	0.320	1,596	0.09	0.04	0.14	<.001	1,596	-0.03	-0.08	0.01	0.162	1,596	0.05	0.00	0.10	0.053	1,552	0.14	0.09	0.19	<.001

Table S2: Predictive accuracies of the big-5 personality traits using different musical preference surveys

		Openness				Conscientiousness				Extraversion				Agreeableness				Neuroticism								
		N	R	95% CI	p	N	R	95% CI	p	N	R	95% CI	p	N	R	95% CI	p	N	R	95% CI	p					
Mix B	Music liking	10,840	.23	.21	.25	<.001	10,840	.11	.09	.13	<.001	10,839	.16	.14	.17	<.001	10,839	.16	.14	.17	<.001	10,394	.11	.09	.12	<.001
	Music+Gender+Age	4,981	.21	.19	.24	<.001	4,981	.15	.12	.17	<.001	4,981	.17	.15	.20	<.001	4,981	.18	.15	.20	<.001	4,876	.16	.13	.19	<.001
	Gender+Age	4,981	.02	-.01	.05	.111	4,981	.14	.11	.16	<.001	4,981	-.01	-.04	.01	.309	4,981	.06	.03	.09	<.001	4,876	.14	.11	.17	<.001
Rock A	Music liking	2,758	.21	.18	.25	<.001	2,758	.07	.03	.11	<.001	2,758	.10	.06	.13	<.001	2,758	.16	.12	.19	<.001	2,708	.12	.08	.16	<.001
	Music+Gender+Age	1,359	.20	.15	.25	<.001	1,359	.15	.10	.20	<.001	1,359	.14	.08	.19	<.001	1,359	.20	.15	.25	<.001	1,344	.15	.10	.20	<.001
	Gender+Age	1,359	-.06	-.11	.00	.035	1,359	.10	.05	.16	<.001	1,359	.00	-.05	.05	.992	1,359	-.02	-.07	.03	.496	1,344	.14	.09	.19	<.001
Rock B	Music liking	1,748	.15	.11	.20	<.001	1,748	.07	.02	.11	.006	1,748	.13	.08	.17	<.001	1,748	.18	.13	.22	<.001	1,720	.09	.05	.14	<.001
	Music+Gender+Age	905	.19	.13	.26	<.001	905	.03	-.04	.09	.390	905	.14	.08	.21	<.001	905	.22	.16	.28	<.001	898	.14	.07	.20	<.001
	Gender+Age	905	.05	-.02	.11	.139	905	.08	.01	.14	.018	905	.01	-.05	.08	.667	905	-.02	-.09	.04	.469	898	.11	.05	.18	.001
Jazz A	Music liking	1,590	.15	.10	.20	<.001	1,590	.10	.05	.15	<.001	1,589	.02	-.03	.07	.379	1,590	.09	.04	.13	.001	1,564	.09	.04	.14	.001
	Music+Gender+Age	825	.04	-.03	.11	.261	825	.12	.05	.19	.001	825	.03	-.04	.09	.471	825	.10	.03	.16	.006	821	.11	.04	.18	.002
	Gender+Age	825	.00	-.07	.07	.949	825	.09	.02	.15	.012	825	-.04	-.10	.03	.290	825	-.01	-.08	.06	.754	821	.10	.03	.17	.004
Jazz B	Music liking	887	.17	.10	.23	<.001	887	.01	-.06	.08	.755	887	.06	.00	.13	.058	887	.06	.00	.13	.063	872	-.02	-.09	.05	.566
	Music+Gender+Age	461	.06	-.03	.15	.167	461	.08	-.01	.17	.071	461	.07	-.02	.17	.108	461	-.05	-.14	.04	.286	458	-.04	-.13	.05	.377
	Gender+Age	461	-.07	-.16	.02	.123	461	.15	.06	.23	.002	461	.01	-.09	.10	.914	461	.04	-.05	.13	.434	458	.04	-.05	.13	.431

Table S3: values of the LASSO algorithm tuning parameter λ , averaged across ten folds predicting personality using musical surveys and artist likes (standard deviation in parenthesis).

	O	C	E	A	N
Mix A	0.0021 (0.00022)	0.0016 (0.00027)	0.0014 (0.00073)	0.0012 (0.00036)	0.0036 (0.00062)
Mix B	0.0025 (0.00110)	0.0028 (0.00050)	0.0031 (0.00100)	0.0027 (0.00075)	0.0053 (0.00140)
Rock A	0.0081 (0.00170)	0.0103 (0.00530)	0.0183 (0.00330)	0.0129 (0.00330)	0.0141 (0.00230)
Rock B	0.0129 (0.00680)	0.0164 (0.00470)	0.022 (0.00660)	0.0139 (0.00280)	0.0178 (0.00240)
Jazz A	0.0161 (0.00460)	0.0188 (0.00450)	0.029 (0.01870)	0.0237 (0.00450)	0.0325 (0.00310)
Jazz B	0.0161 (0.00460)	0.0188 (0.00450)	0.029 (0.01870)	0.0237 (0.00450)	0.0325 (0.00310)
Facebook likes	0.0040 (0.00031)	0.0058 (0.00066)	0.0052 (0.00047)	0.0051 (0.00034)	0.0068 (0.00058)

Figure S1: Five factor model

(A-E) Loading coefficients of the liking ratings, for each of the short musical excerpts in surveys Mix_A and Mix_B. The colors represent the dimension of the MUSIC model that each excerpt was a-priori chosen to represent. (F) Percent of the variance explained as a function of the number of factors used.

